



# Best Management Practices for Construction and Development Projects

## Ozark Cavefish

*Troglichthys rosae*

**Common name** • Ozark Cavefish

**Scientific name** • *Troglichthys rosae*

**Federal status** • Threatened

**State status** • Endangered

### Purpose and Use

The information in this document is to be used to help avoid and minimize species impacts due to construction practices. It is not intended as a guide to manage habitat for a given species. Please contact the Department of Conservation if habitat management information is needed. Because every project and location differ, following the recommendations in this document does not guarantee impacts will not occur to the species and additional information may be required in certain instances. Following the recommendations in this document does not complete Endangered Species Act consultation that may be necessary for species listed under the federal Endangered Species Act; please contact the U.S. Fish and Wildlife Service for more information.

### Ecology

The range of the Ozark Cavefish includes just a small portion of the Ozarks in Missouri, Arkansas, and Oklahoma. In Missouri, they are found in the Springfield Plateau Region in the southwestern part of the state. Ozark Cavefish live in small cave streams and springs with chert, rubble, or occasionally silt bottoms. Ozark Cavefish are highly adapted to subterranean life and lack functional eyes and body pigments but are extremely sensitive to vibrations. Despite their slow metabolism, Ozark Cavefish are effective foragers on plankton, isopods, amphipods, crayfish, and salamander larvae. Bat guano and detritus brought in from outside the cave system provide a food source for many of the invertebrates on which Ozark Cavefish feed. Ozark Cavefish spawn from February to April, when water levels are high. Adult Ozark Cavefish reach a maximum length of 2.2 inches.

### Reasons for Decline

Aquatic cave organisms like Ozark Cavefish are vulnerable to factors that degrade the quality of groundwater and block underground movement corridors. Threats include pollution from crop fields, pastures, septic tanks, sewage lagoons, chemical spills, urban runoff, toxic metals from mines, and waste from livestock and poultry. Sedimentation from excessive erosion may limit habitat available for Ozark Cavefish and associated invertebrate prey. Ozark Cavefish also

may be affected by human disturbance through collection or recreational caving.

### Specific Recommendations

Species like the Ozark Cavefish are indicators of clean, healthy groundwater systems that are used for consumption and irrigation. Following these recommendations will minimize negative impacts to cave systems and the Ozark Cavefish.

- Minimize sedimentation and introduction of chemical or nutrient-laden runoff into streams, sinkholes, caves, and abandoned wells by implementing and monitoring erosion and sediment controls for the duration of the project.
- Establish and maintain forested buffers at least 100 feet wide along streams and around cave and sinkhole entrances.
- Do not seal or alter cave entrances or sinkholes as groundwater organisms depend on inputs from the outside environment for food and nutrients.
- Take care to contain all construction debris to prevent its accidental introduction into caves, sinkholes, or springs as a result of clean-up activities, run-off, flooding, wind, or other natural forces.
- Dispose of chemicals, toxic waste, garbage, and wash water from trucks in areas designated for such wastes. These sites should be away from caves and sinkholes.
- Avoid entering caves to minimize disturbance to habitat and bats that provide nutrients for cave fauna.
- If temporary roadways must be built, ensure that roadways are of low gradient with sufficient roadbed and storm water runoff drains and outlets.
- Revegetate disturbed areas as soon as possible to minimize erosion.
- Avoid alteration of flow regimes to surface streams within the range of Ozark Cavefish, including through construction of dams, impoundments, impervious surfaces, or other diversions.
- Ensure that chemical spills are quickly reported; proper steps are taken to mitigate damages; and ensure proper cleanup occurs.
- Have a spill plan in place before a spill occurs. Make sure materials needed to contain a spill are readily and quickly accessible.

### General Recommendations

Refer to Best Management Practices for Construction and Development Projects Affecting Missouri Rivers and Streams and Management

## *Recommendations for Construction and Development Projects Affecting Missouri Karst Habitat.*

If your project involves the use of Federal Highway Administration transportation funds, these recommendations may not fulfill all contract requirements. Please contact the Missouri Department of Transportation at 573-526-4778 or the [Missouri Department of Transportation Environmental Studies webpage](#) for additional information on recommendations.

Endangered Species Act, and state or Local laws need to be considered for construction and development projects and require permits and/or consultation with the appropriate agency. Following the recommendations provided in this document will help reduce and avoid project impacts to the species, but impacts may still occur. Please contact the appropriate agency for further coordination and to complete compliance requirements.

## **Information Contacts**

For further information regarding regulations for development in rivers and streams, contact:

For species information:

[Missouri Department of Conservation](#)  
Science Branch  
P.O. Box 180  
Jefferson City, MO 65102-0180  
Telephone: 573-751-4115

For species information and Endangered Species Act Coordination:

[U.S. Fish and Wildlife Service](#)  
Ecological Services  
101 Park Deville Drive, Suite A  
Columbia, MO 65203-0007  
Telephone: 573-234-2132

For Clean Water Act Coordination:

[Missouri Department of Natural Resources](#)  
Water Protection Program  
P.O. Box 176  
Jefferson City, MO 65102-0176  
Telephone: 573-751-1300, 800-361-4827

[U.S. Army Corps of Engineers](#)  
Regulatory Branch  
700 Federal Building  
Kansas City, MO 64106-2896  
Telephone: 816-389-3990

[U.S. Environmental Protection Agency](#)  
EPA Region 7 Water Division  
11201 Renner Boulevard  
Lenexa, KS 66219  
Telephone: 913-551-7977

## **Disclaimer**

These Best Management Practices were prepared by the Missouri Department of Conservation with assistance from state and federal agencies, contractors, and others to provide guidance to those who wish to voluntarily act to protect wildlife and habitat. Compliance with these Best Management Practices is not required by the Missouri wildlife and forestry law nor by any regulation of the Missouri Conservation Commission. Federal laws such as the Clean Water Act and the